671 Statist.

✓BMNR 2650

STATISTICAL REPORT OF SURVEY

ON

SOUTHERN OREGON - NORTHERN CALIFORNIA

PINE BEETLE CONTROL PROJECT.

DURING

SEASON 1925

Statistical Report No. 4

By
F.P. Keen
Associate Entomologist

U.S. Bureau of Entomology.

Box 3010,
Stanford University, California.

February 1, 1926

STATISTICAL REPORT OF SURVEY

ON

SOUTHERN OREGON - NORTHERN CALIFORNIA

PINE BEETLE CONTROL PROJECT.

DURING

SEASON 1925

Statistical Report No. 4

By
F.P. Keen
Associate Entomologist

U.S. Bureau of Entomology.

Box 3010
Stanford University, California

February 1, 1926.

Copies to:-
File
Dr. Craighead
District Forester
Brown
Howarth
Kimball

PREFACE

The fifth annual survey of the Southern Oregon - Northern California Pine Beetle Control Project was carried out by the Bureau of Entomology from May 1 to October 27, 1925. A three-man crew working under the general supervision of Mr. J. E. Patterson recruised the check sections which have been laid out in typical sites thruout the project. The same cruising methods were used again this year. The trees killed by beetle attacks during 1924 were blazed, numbered and mapped. In addition, sample increment cores were taken on each section from twenty beetle-killed trees of various diameters and twenty living trees of the same diameters and adjacent to the killed trees. Site quality records were also taken thruout the area. Mr. W. J. Buckhorn was in charge of the crew and spotted; Mr. T.J. Hastings, who spotted on the survey of last year was the other spotter and Mr.L.R. McNeill ran compass and mapped.

The tables of this report give first a summary of the cruising data on the check sections, then the estimated total loss of 1924 by units, areas, and for the project as a whole, and a summary of the control work conducted during the fall of 1924. In addition is given a summary of the yellow pine losses for the five year period 1920 - 1924, and a summary of all control work conducted during the same period.

The data contained in this report and in the previous statistical reports forms the basis for the conclusions as to the general results of control on the project. Analysis of the data will be contained in a later report.

F. P. Keen

F.P. Keen,
Associate Entomologist

TABLE 1.

SURVEY OF 1925

SUMMARY OF CRUISING DATA ON CHECK SECTIONS

Area 1.

Unit	Location T	R	Sec.	Acres	Date of Cruise 1925	1924 HS	1924 HW	Total trees marked	Total Estimate	Total Volume	Av. Volume
Aspenlake	37S	7E	34	640	5/24	75	88	163	185	150,490	920
" "	38S	7E	5W½	320	5/19	8	25	33	40	30,970	940
" "	38S	7E	8W½	320	5/19	26	33	59	65	65,080	1,100
Big Bend	40S	7E	18	640	6/6	23	58	81	90	94,290	1,170
Chase Butte	40S	8E	18 NW¼	160	6/3	11	18	29	40	28,400	980
Clover Station	38S	6E	36	640	5/15	82	173	255	290	227,200	890
" "	39S	7E	16	640	5/14	87	114	201	230	185,040	920
Eagle Ridge	37S	7E	16	640	5/22	53	~~160~~ 100	153	175	146,260	960
Jenny Creek	39S	4E	33	640	6/5	28	54	82	105	56,730	690
" "	40S	4E	34	640	5/1	108	132	240	270	224,380	940
Johnson's Prairie	39S	5E	7	640	5/7	62	76	138	155	189,470	1,370
Klamath Canyon	41S	6E	9S½	320	6/5	32	48	80	130	53,650	670
Pokegama	40S	5E	36	640	5/11	117	102	219	250	188,700	860
Roundlake	39S	8E	5	480	5/27	131	193	324	340	383,310	1,180
" "	38S	8E	31	540	5/29	65	97	162	185	164,620	1,020
Topsy	40S	7E	33	640	6/4	16	41	57	65	71,610	1,260
"	40S	7E	21	640	6/9	29	78	107	120	155,550	1,450

TABLE 1.

SURVEY OF 1925

SUMMARY OF CRUISING DATA ON CHECK SECTIONS

Area 1.

Unit	Location T	Location R	Location Sec.	Acres	Date of Cruise 1925	1924 HS	1924 HW	Total trees marked	Total Estimate	Total Volume	Av. Volume
Aspenlake	37S	7E	34	640	5/24	75	88	163	185	150,490	920
" "	38S	7E	5W½	320	5/19	8	25	33	40	30,970	940
" "	38S	7E	8W½	320	5/19	26	33	59	65	65,080	1,100
Big Bend	40S	7E	18	640	6/6	23	58	81	90	94,290	1,170
Chase Butte	40S	8E	18 NW¼	160	6/3	11	18	29	40	28,400	980
Clover Station	38S	6E	36	640	5/15	82	173	255	290	227,200	890
" "	39S	7E	16	640	5/14	87	114	201	230	185,040	920
Eagle Ridge	37S	7E	16	640	5/22	53	~~130~~ 180	153	175	146,260	960
Jenny Creek	39S	4E	33	640	6/5	28	54	82	105	56,730	690
" "	40S	4E	34	640	5/1	108	132	240	270	224,380	940
Johnson's Prairie	39S	5E	7	640	5/7	62	76	138	155	189,470	1,370
Klamath Canyon	41S	6E	9S½	320	6/5	32	48	80	130	53,650	670
Pokegama	40S	5E	36	640	5/11	117	102	219	250	188,700	860
Roundlake	39S	8E	5	480	5/27	131	193	324	340	383,310	1,180
" "	38S	8E	31	540	5/29	65	97	162	185	164,620	1,020
Topsy	40S	7E	33	640	6/4	16	41	57	65	71,610	1,260
"	40S	7E	21	640	6/9	29	78	107	120	155,550	1,450

Table 1 - Cont'd.

SURVEY OF 1925

SUMMARY OF CRUISING DATA ON CHECK SECTIONS
Area 1. - Cont'd.

Unit	Location T	R	Sec.	Acres	Date of Cruise 1925	1924 HS	1924 HW	Total trees marked	Total Estimate	Total Volume	Av. Volume
orden	40S	8E	31 m/2	320	6/2	39	47	86	180	120,490	1,400
Totals				9500		992	1477	2469		2,536,240	1,030

Table 1 - Cont'd.

Area 2.

Unit	T	R	Sec.	Acres	Date of Cruise 1925	1924 HS	1924 HW	Total trees marked	Total Estimate	Total Volume	Average Volume
Algoma	38S	9E	4	640	6/12	54	30	84	95	98,750	1,170
Antelope	36S	8E	28	640	8/11	41	60	101	115	125,520	1,240
" "	37S	9E	12	640	8/13	38	73	111	125	157,190	1,420
Black Hills	35S	13E	18	640	7/22	58	98	156	175	203,230	1,300
Bly	37S	13E	6	640	7/17	55	105	160	180	196,330	1,230
Chiloquin	35S	7E	24	160	6/15	12	25	37	40	33,780	910
Ferguson	35S	13E	33	640	7/24	117	133	250	280	273,400	1,090
Gerber	38S	13E	24	640	7/31	49	105	154	175	160,730	1,040
Goodlowe	39S	13E	5	640	8/3	20	35	55	60	70,870	1,290
Hildebrand	37S	11E	27	520	7/7	23	40	63	70	71,550	1,140
" "	37S	11E	21	640	7/9	63	144	207	235	175,950	850
Rock Canyon	38S	11E	12	440	8/6	28	26	54	60	90,640	1,680
Royston	38S	12E	10	640	8/5	46	67	113	130	103,210	910
Saddle Mt.	35S	8E	22	640	6/18	48	137	185	210	212,720	1,150
Shoner	38S	9E	34	640	6/28	11	38	49	55	30,000	610
Sprague	34S	8E	32	640	6/16	35	91	126	140	122,290	970
Squaw Flat	37S	10E	9	640	6/23	33	63	96	110	115,880	1,210

Table 1 - Cont'd

Area 2 - Cont'd.

Unit	Location T	R	Sec.	Acres	Date of Cruise 1925	1924 HS	1924 HW	Total trees Marked	Total Estimate	Total Volume	Average Volume
Swan Lake	37S	9E	26	640	8/10	34	55	89	100	88,100	990
Sycan	34S	12E	2	640	7/20	94	204 [1]	298	310	258,700	870
Trout Creek	36S	9E	2	520	6/20	19	43	62	70	54,920	880
" "	36S	9E	25	640	6/21	46	95	141	160	200,910	1,420
Whiskey Creek	37S	11E	2	640	7/10	37	52	89	100	104,600	1,170
" " "	37S	12E	17	640	7/14	73	119	192	220	180,540	940
Willow Flat	36S	14E	31	640	7/27	74	64	138	155	134,090	970
" " "	37S	14E	20	640	7/29	136	70	206	235	200,340	970
Yainox	36S	10E	24	480	8/24	29	27	56	65	60,420	1,080
"	"	"	27	640	6/25	137	55	92	105	142,420	1,550
Total				16,200	-	1,310	2,054	3,364		3,667,080	1,090

1 - 179 trees treated, fall, 1924.

Table 1 - cont'd.

Unit	Location T	Location R	Location Sec.	Acres	Date of Cruise 1925	1924 HS	1924 HW	Total trees Marked	Total Estimate	Total Volume	Average Volume
Barnes Valley	39S	15E	36	320	10/17	19	26	45	50	53,430	1,190
Crowder Flat	47N	11E	18	640	9/30	29	42	71	80	72,030	1,020
" "	48N	11E	32	640	9/29	25	33	58	65	63,660	1,100
" "	47N	12E	4	640	10/3	12	11	23	25	34,820	1,510
" "	"	"	18	600	10/3	6	11	17	20	18,780	1,100
Deming Creek	36S	15E	8	640	8/27	66	223 [1]	289	310	294,080	1,020
" "	"	"	25	640	8/29	45	100	145	165	148,200	1,020
Dog Lake	40S	17E	21	560	9/27	8	9	17	20	17,400	1,020
Four Mile	41S	15E	1	520	10/12	9	13	22	25	22,830	1,040
" "	48N	10E	21	560	10/9	6	13	19	20	22,810	1,200
Hay Creek	40S	16E	2	320	10/15	12	17	29	35	25,190	870
Horsefly	38S	14E	13	640	9/2	14	31	45	50	65,990	1,460
" "	"	"	16	640	9/7	67	80	147	165	147,030	1,000
" "	"	"	36	640	9/2	49	63	112	125	140,210	1,250
Merritt Creek	33S	14E	34	640	8/18	38	49	87	100	70,890	810
Meryl Creek	34S	14E	11	640	8/21	55	106	161	180	166,820	1,040
" "	35S	15E	20	640	8/24	35	76	111	125	154,330	1,390
Owens	38S	15E	1	640	9/11	18	18	36	40	38,110	1,060
"	37S	16E	29	640	9/18	51	100	151	170	189,340	1,250

1 - 218 trees treated fall 1924.

Table 1 - Cont'd.

Area 3 - Cont'd.

Unit	Location T	R	Sec.	Acres	Date of Cruise 1925	1924 HW	1924 HW	Total trees Marked	Total Esti-mate	Total Volume	Average volume	1924 HW treated
Quartz Valley	38S	17E	7E½	320	9/23	10	13	23	55	34,730	1,510	
" " "	"	"	8W½	320	9/22	16	25	41	90	44,440	1,080	
" " "	"	"	19	640	9/24	19	23	42	50	58,250	1,390	
Scab Rock	40S	15E	33	640	10/13	24	28	52	60	59,990	1,150	
Whitworth Cr.	37S	16E	17	640	9/14	116	205	321	360	285,730	890	
Total				13,760		749	1,315	2,064		2,229,090	1,080	
Project Totals				38,820		3,014	4,791	7,805		8,289,990	1,060	
						38.7%	61.3%					

213 board feet per acre.

TABLE 2

Area 1

SUMMARY OF YELLOW PINE LOSSES FOR 1924

Name of Unit	Number Trees Killed	Average Volume Per Tree	Volume Killed	Stumpage Value	Value of Loss	Percent Stand Killed	Loss per acre Bd. Ft.	Trees Killed per Sec. Average	Trees Killed per Sec. Maximum
Aspen Lake [1,2,]	3,000	1,000	3,000,000	$6.00	18,000	1.10	177	113	185
Big Bend [2,3,]	700	1,100	770,000	6.00	4,620	1.11	105	61	90
Chase Butte [2]	1,000	1,000	1,000,000	5.00	5,000	.78	87	56	120
Clover Station [2,4]	6,800	900	6,120,000	6.00	36,720	.88	118	84	290
Eagle Ridge [1]	3,200	950	3,040,000	7.00	21,280	1.56	170	114	220
Jenny Creek [2]	3,800	900	3,420,000	5.00	17,100	.91	75	53	270
Johnson Prairie	4,300	1500	6,450,000	5.00	32,250	1.06	134	57	340
Klamath Canyon [3]	1,900	650	1,235,000	3.00	3,705	2.09	110	108	180
Pokegama [2]	7,500	1000	7,500,000	5.00	37,500	.95	152	98	290
Round Lake [1, 2]	3,100	1100	3,410,000	6.00	20,460	1.53	186	108	340
Topsy [3]	2,100	1200	2,520,000	6.00	15,120	1.00	99	54	200
Worden [3]	1,100	1300	1,430,000	5.00	7,150	2.24	191	94	200
Total	38,500	1035	39,895,000	5.50	$218,905	1.07	128	79	340

1 Units on which 1921 loss was treated
2 Units on which 1922 loss was treated
3 Units on which 1923 loss was treated
4 Units on which 1924 loss was treated

Table 3.

Area 2.

SUMMARY OF YELLOW PINE LOSSES FOR 1924

Name of Unit	Number trees killed	Average Volume Per Tree	Volume Killed	Stumpage Value	Value of loss	Percent Stand Killed	Loss per acre Bd. Ft.	Trees Killed per sec. Average	Trees Killed per sec. Maximum
Algoma [1]	650	1,100	715,000	$5.00	3,575	1.65	83	48	120
Antelope [2]	1,900	1,100	2,090,000	5.00	10,450	.63	84	49	170
Black Hills [3]	5,400	1,200	6,480,000	4.00	25,920	1.22	173	92	240
Bly	3,900	1,150	4,485,000	4.50	20,182	1.70	160	89	180
Chitoquin [2]	600	900	540,000	5.00	2,700	.25	25	18	55
Ferguson [3]	2,200	1,100	2,420,000	4.00	9,680	2.16	214	124	300
Gerber	1,650	1,000	650,000	3.50	2,275	2.14	114	73	175
Goodlowe	1,200	1,000	1,200,000	3.50	4,200	1.60	98	62	90
Hildebrand [3]	1,600	900	1,440,000	5.00	7,200	.84	84	60	235
Rock Canyon [3]	1,900	1,400	2,660,000	4.50	11,970	1.72	218	100	160
Royston [3]	2,100	900	1,890,000	4.00	7,560	1.10	156	110	200
Saddle Mt. [2]	4,000	1,100	4,400,000	5.00	22,000	1.11	112	65	210
Shoner [1]	700	650	445,000	5.00	2,275	.43	37	36	60
Sprague [2]	700	950	665,000	6.00	3,990	1.09	124	83	160
Squaw Flat [2]	1,400	1,100	1,540,000	5.00	7,700	.89	98	57	130
Swan [1]	1,400	1,000	1,400,000	5.00	7,000	.97	96	61	120

Table 3 - Cont'd.

Area 2. - Cont'd

SUMMARY OF YELLOW PINE LOSSES FOR 1924

Name of Unit	Number trees killed	Average Volume Per Tree	Volume Killed	Stumpage Value	Value of loss	Percent Stand Killed	Loss per acre Bd. Ft.	Trees Killed per sec. Average	Trees Killed per sec. Maximum
Sycan [4]	6,700	900	6,030,000	$3.50	21,105	1.08	150	107	350
Trout Creek [2]	3,600	1,100	3,960,000	5.00	19,800	1.10	115	67	220
Whiskey Creek [3]	3,200	1,000	3,200,000	4.50	14,400	1.03	127	82	220
Walton Flat [3]	4,400	900	3,960,000	4.50	17,820	1.02	121	86	235
Yainox [3]	2,000	1,100	2,200,000	5.00	11,000	1.17	140	81	120
Total	50,000	1,045	52,380,000	$4.45	232,802	1.10	123	75	350

1 Units on which 1921 loss was treated
2 Units on which 1922 loss was treated
3 Units on which 1923 loss was treated
4 Units on which 1924 loss was treated

Pumice 16,950

TABLE 4.

Area 3.

SUMMARY OF YELLOW PINE LOSSES FOR 1924

Name of Unit	Number trees killed	Average Volume Per Tree	Volume Killed	Stumpage Value	Value of loss	Percent Stand Killed	Loss per acre Bd. Ft.	Trees Killed per sec. Average	Trees Killed per sec. Maximum
Barnes Valley	2,700	1,000	2,700,000	$3.00	$ 8,100	.80	62	40	80
Crowder Flat 2,3,	3,500	1,100	3,850,000	3.50	13,475	.44	42	25	90
Deming Creek 2,4,	4,400	1,000	4,400,000	4.50	19,800	1.85	132	85	410
Dog Lake	2,000	1,000	2,000,000	3.00	6,000	.52	38	24	50
Four Mile	1,300	1,100	1,430,000	3.00	4,290	.46	37	22	50
Hay Creek	1,000	900	900,000	3.00	2,700	.49	47	34	80
Horsefly 1,2,3,	3,000	1,000	3,000,000	4.50	13,500	1.01	74	48	165
Merritt Creek	1,800	900	1,620,000	3.50	5,670	1.13	74	53	130
Meryl Creek 2	5,400	1,100	5,940,000	4.50	26,730	1.16	94	55	220
Owens 1, 3,	3,300	1,100	3,630,000	4.50	16,335	1.11	95	55	220
Quartz Valley 3	1,900	1,200	2,280,000	4.00	9,120	.77	68	36	100
Scab Rock	1,900	1,100	2,090,000	3.00	6,270	1.42	107	62	190
Whitworth Cr. 2	3,600	900	3,240,000	4.50	14,580	1.78	95	67	360
Total	35,800	1,035	37,080,000	3.95	$146,570	.87	70	43	410

1 Units on which 1921 loss was treated
2 Units on which 1922 loss was treated
3 Units on which 1923 loss was treated
4 Units on which 1924 loss was treated

TABLE 5

PROJECT TOTALS

SUMMARY OF YELLOW PINE LOSSES FOR 1924

Items	Area 1.	Area 2.	Area 3.	Totals
No. Trees Killed	38,500	50,000	35,800	124,300
Average Volume per Tree	1,035	1,045	1,035	1,040
Volume Killed	39,895,000	52,380,000	37,080,000	129,355,000
Average Value per M.B.M.	$5.50	$4.45	3.95	$4.63
Value of Stumpage Lost	$218,905	$232,802	$146,570	$598,277
Percent of Stand Killed	1.07	1.10	.87	1.01
Loss in board feet per acre	128	123	70	102
Average No. Trees Killed per sec.	79	75	43	63
Maximum " " " " "	340	350	410	410

Table No. 6

FALL CONTROL - 1924

TREATING OVERWINTERING GENERATION OF 1924

rea	Unit	Operating Period	Trees Treated	Volume Treated	Acreage Covered	Cost	Aver Vol. per Tree	Aver. No. trees treated per Sec.
L.	Clover	Nov. ? - Dec. 13/24	341	409,200	3,200	$ 2,764.35	1,200	68
II.	Sycan	Oct. 24/24-Dec. 10/24	991	890,610	5,600	4,406.70	900	113
IIII	Deming	Oct. 26/24-Dec. 16/24	1,891	1,738,150	7,720	8,389.84	910	144
otal for ason		Oct. 24/24-Dec. 16/24	3,223	3,037,960	16,520	15,560.89	940	125
tal to ly 1, 1924		Apr. 18/22-July 1/24	28,289	31,967,660	376,987	129,603.79	1,130	48
tal for oject		Apr. 18/22-Dec. 16/24	31,512	35,005,620	393,507 ~~145,164.68~~	145,164.68	1,110	51

TABLE NO. 7

SUMMARY OF YELLOW PINE LOSSES SINCE 1919
(Results from Five yearly Surveys)
Area 1.

Year	No. Trees Killed	Volume Killed	Value of loss	Percent of Stand Killed	Loss per Acre Bd. Ft.	Trees Killed Per Section Average	Trees Killed Per Section Maximum
1920	35,000	37,853,500	$135,866	1.00%	122	72	300
1921	32,000	34,924,000	142,579	.93%	112	66	320
1922 [1]	24,000	26,039,000	117,530	.70%	84	50	220
1923	19,800	22,328,000	109,840	.60%	72	41	200
1924	38,500	39,895,000	218,905	1.07%	128	79	340
tal for ve ars	149,300	161,089,500	$724,720	4.30%	518	308	1200 [2]

1 First year to show effects of control.

2 Sec. 36 T 38S R 6 E (Av. vol. 1000 bd. ft. per tree) Cover Sta. Unit.

TABLE NO. 8

SUMMARY OF YELLOW PINE LOSSES SINCE 1919
(Results from Five Yearly Surveys)

Area 2.

Year	No. Trees Killed	Volume Killed	Value of loss	Percent of Stand Killed	Loss per Acre Bd. Ft.	Trees Killed Per Section	
						Average	Maximum
1920	58,000	47,555,000	$134,231	1.00%	112	87	315
1921	49,500	47,696,000	157,745	1.00%	112	74	250
1922 [1]	38,700	40,629,000	153,815	.85%	95	58	225
1923	26,000	24,528,000	103,486	.51%	58	39	200
1924	50,000	52,380,000	232,802	1.10%	123	75	350
Total for five years	222,200	212,788,000	$782,079	4.46%	500	333	950

1 First year to show effect of control.

2 Sec. 33 T 35S R 13 E Ferguson Unit (Av. Vol. 1100 bd. ft. per tree.)

TABLE 9.

SUMMARY OF YELLOW PINE LOSSES SINCE 1919
(Results from Five Yearly Surveys)

Area 3

Year	No. Trees Killed	Volume Killed	Value of Loss	Percent of Stand Killed	Loss per Acre Bd. Ft.	Trees Killed Per Section Average	Trees Killed Per Section Maximum
1920	40,000	38,002,000	$103,531	.90%	72	48	400
1921	38,000	37,035,000	116,648	.87%	70	46	285
1922[1]	37,000	38,307,000	128,155	.90%	72	45	320
1923	28,400	27,570,000	108,503	.65%	52	22	250
1924	35,800	37,080,000	146,570	.87%	70	43	410
Total for five yrs	179,200	177,994,000	$603,407	4.19%	336	204	1190

1. First year showing effect of control.

2. Sec. 17 T36S R 16E (Av. Vol. 900 bd.ft. per tree) Whitworth Creek Unit.

TABLE 10

SUMMARY OF YELLOW PINE LOSSES SINCE 1919
(Results from Five Yearly Surveys)

Project Totals

Year	No. Trees Killed	Volume Killed	Value of Loss	Percent of Stand Killed	Loss per Acre Bd. Ft.	Trees Killed per Sec. Average	Trees Killed per Sec. Maximum
1920	133,000	123,410,500	$373,628	.97%	97	67	400
1921	119,500	119,705,000	416,972	.94%	94	60	320
1922 [1]	99,700	104,975,000	399,500	.82%	79	50	320
1923	74,200	74,426,000	321,829	.58%	59	38	250
1924	124,300	129,355,000	598,277	1.01%	102	63	410
Total for five years.	550,700	551,871,500	$2,110,206	4.32%	431	278	1200 [2]

1 First Year to show effects of control.
2 Clover Station Unit Area 1 - Sec. 36 T 38S R 6E (Av. Vol. 1000 bd. ft. per tree)

Table 11.

SUMMARY OF CONTROL CONDUCTED ON

Area 1

1922 - 1924

Period	Trees Treated	Volume Treated	Acreage Covered	Av. Vol. per Tree	Av. No. Trees treated per sec.	Cost Total	Cost Per tree	Cost Per M.B.M.	Cost Per Acre
Spring 1922	3,284	3,458,650	26,450	1,050	80	$12,483.30	$3.80	$3.61	$ .47
Summer 1922	72	103,560	1,681	1,440	27	1,150.17	15.97	11.10	.69
Fall & Winter 1922	1,249	1,594,970	10,127	1,280	78	6,029.34	4.83	3.78	.59
Spring 1923	2,950	3,839,980	30,112	1,300	63	11,292.09	3.83	2.94	.30
Fall 1923	451	768,420	6,480	1,700	45	3,866.14	8.59	5.04	.60
Spring 1924	582	601,590	5,000	1,030	75	3,159.25	5.43	5.25	.63
Fall 1924	341	409,200	3,200	1,200	68	2,764.35	8.11	6.76	.86
Total	8,929	10,776,370	83,050	1,200	69	$40,744.64	4.56	3.78	.49

Table 12

SUMMARY OF CONTROL CONDUCTED ON

Area 2

1922 - 1924

Period	Trees Treated	Volume Treated	Acreage Covered	Av. Vol. per Tree	Av. No. Trees treated per sec.	Cost Total	Cost Per tree	Cost Per M.B.M.	Cost Per Acre
Spring 1922	1,919	1,708,080	22,640	890	54	$ 9,822.07	$5.12	$5.75	$ .44
Summer 1922	175	209,840	4,960	1,200	23	2,207.16	12.61	10.50	.44
Fall 1922	1,276	1,518,720	18,429	1,190	44	6,363.89	4.99	4.19	.34
Winter 1922-23						495.48			
Spring 1923	3,515	4,368,580	38,213	1,240	59	13,251.17	3.77	3.03	.35
Fall 1923	1,158	1,194,410	25,200	1,030	29	6,771.20	5.86	5.68	.27
Spring 1924	2,335	2,526,650	39,800	1,080	38	10,178.37	4.36	4.03	.26
Fall 1924	991	890,610	5,600	900	113	4,406.70	4.45	4.94	.79
Total	11,369	12,416,890	154,842	1,100	47	53,496.04	4.70	4.30	.35

Table 13

SUMMARY OF CONTROL CONDUCTED ON

Area 3

1922 - 1924

Period	Trees Treated	Volume Treated	Acreage Covered	Av. Vol. per Tree	Av. No. Trees treated per sec.	Cost Total	Cost Per Tree	Cost Per M.B.M.	Cost Per Acre
Spring 1922	1,761	1,725,280	22,380	980	50	$ 9,996.62	$5.67	$5.79	.44
Summer 1922	531	591,150	17,440	1,100	20	3,583.21	6.75	6.06	.21
Fall 1922	1,895	2,298,490	25,440	1,210	48	7,162.96	3.78	3.11	.28
Winter 1922-23						1,183.16			
Spring 1923	2,938	2,972,970	30,735	1,010	61	10,293.91	3.50	3.46	.34
Fall 1923	1,474	1,623,810	36,520	1,100	26	6,825.64	4.64	4.20	.19
Spring 1924	724	862,510	8,240	1,080	48	3,488.66	4.82	4.05	.42
Fall 1924	1,891	1,738,150	7,720	910	144	8,389.84	4.43	4.83	1.09
Total	11,214	11,812,360	148,475	1,050	48	50,924.00	4.54	4.31	.34

Including fall 1923 checked with Black's report Feb. 7, 1924.

Table 14

SUMMARY OF CONTROL CONDUCTED ON

Project

1922 - 1924

Period	Trees Treated	Volume Treated	Acreage Covered	Av. Vol. per Tree	Av. No. Trees treated per sec.	Cost Total	Cost Per Tree	Cost Per M.B.M.	Cost Per Acre
Spring 1922	6,964	6,892,010	71,470	990	62	$ 32,301.99	$4.64	$4.69	.45
Summer 1922	778	904,550	24,081	1,160	21	6,940.54	8.92	7.68	.29
Fall & Winter 1922	4,420	5,412,180	53,996	1,220	52	21,234.83	4.81	3.93	.40
Spring 1923	9,403	11,181,530	99,060	1,190	61	34,837.17	3.71	3.12	.35
Fall 1923	3,083	3,586,640	68,200	1,160	29	17,462.98	5.67	4.87	.25
Spring 1924	3,641	3,990,750	53,040	1,095	44	16,826.28	4.62	4.22	.32
Fall 1924	3,223	3,037,960	16,520	940	125	15,560.89	4.83	5.13	.94
Total for Project	31,512	35,005,620	386,367	1,110	52	$145,164.68	4.60	4.15	.38

Table 15

SUMMARY OF COSTS

	Cost of Control	Other Costs	Total	Distribution of Costs	
				Federal	Private Owners
AREA 1					
On National Forest O. & C. land, Public Domain & private lands.	$40,744.64	$5,973.28	$46,717.92	$ 9,213.84	$37,504.08
AREA 2					
On Klamath Indian Reservation; public domain, State lands & private lands.	53,496.04	73.33	53,569.37	41,227.71	12,341.66
AREA 3					
On National Forest, public domain & private lands.	50,924.00	257.55	51,181.55	29,129.52	22,052.03
Total Costs	$145,164.68	$6,304.16	$151,468.84	$79,571.07	$71,897.77

Approximate Disposition of the $150,000 federal appropriation, spent on S. Oregon Project:

For Control	$ 80,000
Forest Service	18,000
Bureau of Entomology . . .	45,000
Indian Service	1,000
Spent on other projects:	
Forest Service	4,000
Balance unexpended	2,000
	$150,000